

REMARKS

In the Office Action, the Examiner objected to claims 9, 19 and 21-22 for informalities. The Examiner rejected claims 1-22 under 35 U.S.C. §102(e) as being anticipated by United States Patent Application 2001/0047507 to Pileggi, et al. ("Pileggi"). In this Amendment, Applicants have amended claims 1, 6, 7, 9, 11, 14, and 19-22, but have not added or canceled any claim. Accordingly, claims 1-22 will be pending in the application after entry of this Amendment.

I. Objection to Claims 9, 19, and 21-22

In the Office Action, the Examiner objected to independent claims 9, 19, and 21-22 for lack of antecedent basis. In this Amendment, Applicants have amended (1) claim 9 to recite "metric cost of each route includes a length of the route," (2) claim 19 to recite "quantifies quality of the routing solution," (3) claim 21 to recite "metric cost includes a length," and (4) claim 22 to recite "metric cost of each route includes a length." In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the objection to claims 9, 19, and 21-22. In addition, the Applicants have amended claims 6, 7, 11, and 20 for proper antecedent basis.

II. Claims 1-13

In the Office Action the Examiner rejected claims 1-13 under §102(e) as being anticipated by Pileggi. Claims 2-13 are directly or indirectly dependent on claim 1. Claim 1 recites a method for specifying a routing solution for a group of nets. The method initially identifies a set of initial routing solutions for each net in the group of nets, where each of the several initial routing solutions has several routes. The method specifies a best routing solution

from the initially identified sets of routing solutions for the nets, where the best routing solution has one route for each net in the group of nets.

For at least two reasons, Applicants respectfully submit that Pileggi does not disclose, teach, or even suggest such a method for specifying a routing solution for a group of nets where the routing solution is one route for each net.

First, Pileggi's discloses a placer that identifies locations to place circuits in a design layout. Hence, Pileggi does not disclose, teach, or even suggest a router or a routing method that identifies routes for nets.

Second, Pileggi's placer defines a single "smear" for each net, where a smear for a particular net represents an area of the design through which a router might later define routes for the particular net. *See* Pileggi, paragraph 14. This smear is discarded and reselected if a cost function criteria is not met. *See* Pileggi, Figure 1 and paragraph 25. If the circuit element placement move is not accepted, then the algorithm undoes the changes and executes step 5a of Figure 5 to obtain a new placement move and subsequently step 5c of Figure 1 in which the smears are updated, that is, reselected. *See* Pileggi, paragraph 24. In the Office Action, the Examiner characterizes the smear for a net as a set of routing solutions for the net. However, even this characterization does not invalidate the claims as Pileggi never discloses defining a best routing solution for the group of nets, where the best routing solution includes a route from each of the initial sets of routing solutions. In other words, Pileggi does not disclose, teach, or even suggest:

- initially identifying a set of initial routing solutions for each net in the group of nets, where at least two of the initial routing solutions have more than one route,
and

- specifying a best routing solution from the initially identified sets of routing solutions, where the best routing solution has one route for each net in the group of nets.

Accordingly, Applicants respectfully submit that the cited reference does not render amended claim 1 unpatentable. As claims 2-13 are directly or indirectly dependent on claim 1, Applicants respectfully submit that claims 2-13 are patentable over Pileggi for at least the same reasons that were mentioned above for claim 1. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the §102(e) rejection of claims 1-13 over Pileggi.

III. Claims 14-22

The Examiner rejected claims 14-22 under §102(e) as being anticipated by Pileggi. Claims 15-22 are directly or indirectly dependent on claim 14. Claim 14 recites a computer program embedded on a computer readable medium. The computer program specifies a routing solution for a group of nets. The routing solution has one route for each net. The computer program has a set of instructions for initially identifying a set of initial routing solutions for each net in the group of nets, where each of the several initial routing solutions has several routes. The computer program further has a set of instructions for specifying a best routing solution from the initially identified sets of routing solutions for the nets, where the best routing solution has one route for each net in the group of nets.

For at least two reasons, Applicants respectfully submit that Pileggi does not disclose, teach, or even suggest such a method for specifying a routing solution for a group of nets where the routing solution is one route for each net.

First, Pileggi's discloses a placer that identifies locations to place circuits in a design layout. Hence, Pileggi does not disclose, teach, or even suggest a router or a routing method that identifies routes for nets.

Second, Pileggi's placer defines a single "smear" for each net, where a smear for a particular net represents an area of the design through which a router might later define routes for the particular net. *See* Pileggi, paragraph 14. This smear is discarded and reselected if a cost function criteria is not met. *See* Pileggi, Figure 1 and paragraph 25. If the circuit element placement move is not accepted, then the algorithm undoes the changes and executes step 5a of Figure 5 to obtain a new placement move and subsequently step 5c of Figure 1 in which the smears are updated, that is, reselected. *See* Pileggi, paragraph 24. In the Office Action, the Examiner characterizes the smear for a net as a set of routing solution for the net. However, even this characterization does not invalidate the claims as Pileggi never discloses defining a best routing solution for the group of nets, where the best routing solution includes a route from each of the initial sets of routing solutions. In other words, Pileggi does not disclose, teach, or even suggest:

- initially identifying a set of initial routing solutions for each net in the group of nets, where at least two of the initial routing solutions have more than one route,
and
- specifying a best routing solution from the initially identified sets of routing solutions, where the best routing solution has one route for each net in the group of nets.

Accordingly, Applicants respectfully submit that the cited reference does not render amended claim 14 unpatentable. As claims 15-22 are directly or indirectly dependent on claim

14, Applicants respectfully submit that claims 15-22 are patentable over Pileggi for at least the same reasons that were mentioned above for claim 14. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the §102(e) rejection of claims 14-22 over Pileggi.

CONCLUSION

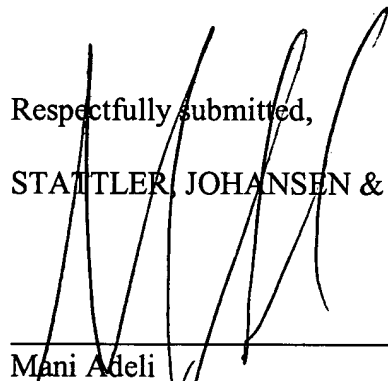
In view of the foregoing, it is submitted that all pending claims, namely claims 1-22, are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

This Amendment is submitted with a petition and fee for a two month extension of time. Accordingly, Applicants believe no additional fee is required. However, in the unlikely event that the Patent Office determines that additional fees, extension, and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or fees due in connection with the filing of this document, or to credit any overpayment, to **Deposit Account: 50-1128** referencing docket: SPLX.P0072. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

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Dated: 11/2/05



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The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this petition, or to credit any overpayment to **Deposit Account No. 50 1128** referencing docket no. **SPLX.P0072**.

Respectfully submitted,

Dated: 11/02/2005

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